

Historic, archived document

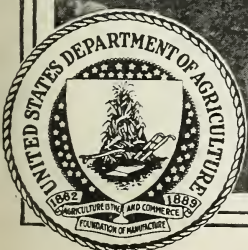
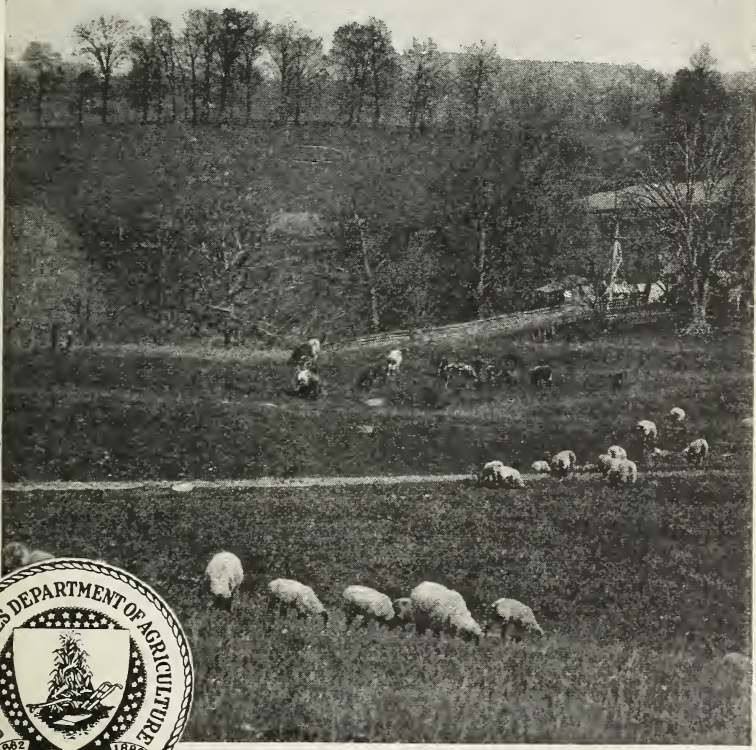
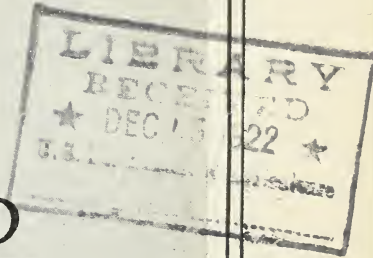
Do not assume content reflects current scientific knowledge, policies, or practices.

30p. 8

U. S. DEPARTMENT OF AGRICULTURE

DEPARTMENT CIRCULAR No. 235

UTILITY VALUE OF PUREBRED LIVESTOCK



THE purpose of this circular is to supply information about pure-bred live stock and its suitability for general farm use. The facts and figures presented are essentially the information a person would get by visiting and talking with several hundred owners of pure-bred animals.

For the reader's convenience, the information gathered has been condensed greatly and expressed chiefly by figures and pithy extracts of practical experiences. This helps to give a definite idea of results to be expected under average farm conditions.

Good pure-bred animals appear to have many advantages over common farm stock. In competent hands pure breeds give sufficient additional returns to more than justify their greater cost and the extra care which they ordinarily receive.

UTILITY VALUE OF PURE-BRED LIVE STOCK.

By D. S. BURCH, *Editor, Bureau of Animal Industry.*

CONTENTS.

	Page.		Page.
Sources of information.....	4	Influence of pure-bred sire users on methods	
Significance of term "pure bred".....	4	of others.....	15
Earning power of pure bred as utility ani-		Incentives to raise superior live stock.....	16
mals.....	4	Methods of further improvement.....	18
The superiority of pure bred as analyzed.....	5	Special problems and difficulties.....	20
Selling surplus pure bred as breeders.....	7	Summary.....	21
Results obtained with pure-bred sires.....	9		
Experiences in obtaining good pure-bred			
sires.....	12		

"WHAT RESULTS, from a utility standpoint, can I expect from pure-bred live stock?" This question, in substance, is being asked the department with increasing frequency by live-stock owners. They indicate a desire for better and more profitable farm animals, but comparatively few, judging from the inquiries, aspire to become specialized breeders. The demand is rather for knowledge of the earning power of pure-bred stock in terms of meat, milk, wool, eggs, and other market products.

Simultaneously, field studies of the department in recent years show wide variations in the proceeds received by farmers for live stock and their products. Under approximately the same set of conditions, some stockmen have operated at a profit while others have showed a loss.

The higher price levels which constantly prevail for superior animals, meats, wool, eggs, and the like have indicated strongly that the type of breeding animals used has much to do with profit and loss. The more specific evidence and figures here reported have been possible through the assistance of stockmen participating in the "Better Sires—Better Stock" campaign, a systematic plan conducted by the United States Department of Agriculture and various States in improving the average quality of live stock in the country.

SOURCES OF INFORMATION.

Records of this work include the names of stockmen who have used pure-bred sires exclusively for a number of years, the kinds of stock kept, and the number of sires and females kept for breeding by each person. A total of 525 such farmers and stockmen owning about 25,000 head of breeding stock and in addition close to 30,000 fowls, have furnished the department with specific replies and figures in response to a series of questions. All their sires have been pure bred for an average of nine years. About 30 per cent of the female stock likewise has been pure bred, the remainder being grade, cross-bred, and nondescript. Thus there is ample basis for comparisons. Thirty-six States, including the important live-stock sections of the country, are represented in the study.

The data were gathered during October and November, 1921, a period of unusual depression in the live-stock industry. Partly for that reason they are considered conservative even though pointing to an unusually high value of pure breeds over common stock. Information obtained as described is necessarily approximate. It lacks the preciseness of experimental work, but has the advantage of including vastly more live stock than is commonly handled in experiments. It includes also many more factors, such as experiences in buying and selling and the general attitude of owners toward pure-bred stock on which they depend for a living. All things considered, the information is believed fairly to represent the results which persons who contemplate raising pure-bred live stock may expect to obtain.

SIGNIFICANCE OF TERM "PURE BRED."

Because of the frequent use of pure bred in this discussion, let us have clearly in mind what a pure-bred animal signifies. "A pure-bred animal," as defined by the Bureau of Animal Industry, "is one of pure breeding representing a definite, recognized breed and both of whose parents were pure-bred animals of the same breed. To be considered pure bred, live stock must be either registered, eligible to registration, or (in the absence of public registry for that class) have such lineage that its pure breeding can be definitely proved. To be of good type and quality, the animal must be healthy, vigorous, and a creditable specimen of its breed."

EARNING POWER OF PURE BREDS AS UTILITY ANIMALS.

Based on utility alone—apart from its breeding or sales value—pure-bred live stock appears to be over one-third more efficient than common stock in all classes of farm animals. The superiority is most marked among dairy cattle.

TABLE 1.—*Superiority, based on utility alone, of pure bred over common live stock.*

Class.	Superior earning power.
	<i>Per cent.</i>
Dairy cattle.....	47.8
Poultry.....	40.7
Swine.....	38.3
Sheep.....	37.8
Horses.....	37.2
Beef cattle.....	36.8
Goats.....	36.8
All classes (weighted average).....	40.4

Thus pure-bred live stock in the nine years' experience of the persons furnishing data have earned about 40 per cent more for their owners than the scrub stock used for comparison.

The relatively high percentages representing the earning power of well-bred dairy cattle and poultry over scrubs are explained doubtless by the better facilities for keeping production records of these classes of live stock, thereby contributing to their improvement. Illustrating this point for cattle, a New England dairyman attributes his increased returns from pure-bred dairy cows over scrubs to the fact that "more attention is paid to testing and feeding. Consequently there is more weeding out of the poorer cows, which results in building up a better herd." A Florida poultryman described how by trap-nesting his flock he increased the annual egg production per hen from 80 to 150. This was accomplished by selection and feeding without introducing new blood.

THE SUPERIORITY OF PURE BREDS ANALYZED.

The respects in which pure-bred animals excel ordinary stock include a great variety of points, which fall into the convenient groups listed in Table 2. Figures in the table show the relative importance of each group in the opinion of the live-stock owners reporting.

TABLE 2.—*Points in which pure-bred animals surpass common stock.*

Chief points of superiority.	Per cent of total comment.	Chief points of superiority.	Per cent of total comment.
Better conformation and quality.....	14.6	Uniformity (factor in making sales).....	8.9
Better selling price of animals.....	12.8	Early maturity.....	7.8
Increased production.....	12.1	Ease of fattening and finishing.....	5.7
Stock more salable.....	11.9	Better prices for products.....	3.0
More product for the feed.....	9.2	Increased vigor.....	2.7
Owner's interest and pride (results in better care and greater returns).....	9.2	Docility and ease of handling.....	2.1

Several hundred comments and explanatory remarks accompanied the information contained in Table 2. A few typical ones illustrate the significance of the various points listed.

"My pure-bred stock weigh as much at 15 months," a Virginia farmer remarks, "as my scrubs did at 3 years—a saving of 21 months in feed and labor, besides getting a better price. They are early maturing, easy keepers, and good producers." Figure 1 illustrates this point pictorially.

A Pennsylvanian adds: "My cows have more than doubled in milk production. Scrub and grade cows used to give me about 4,000 pounds of milk a year, while my pure breeds average over 8,000 pounds."

A breeder in Washington State makes this observation: "I find the young of pure-bred stock are uniformly good, while with scrub stock there usually are 1 or 2 good ones to 8 or 10 poor ones."

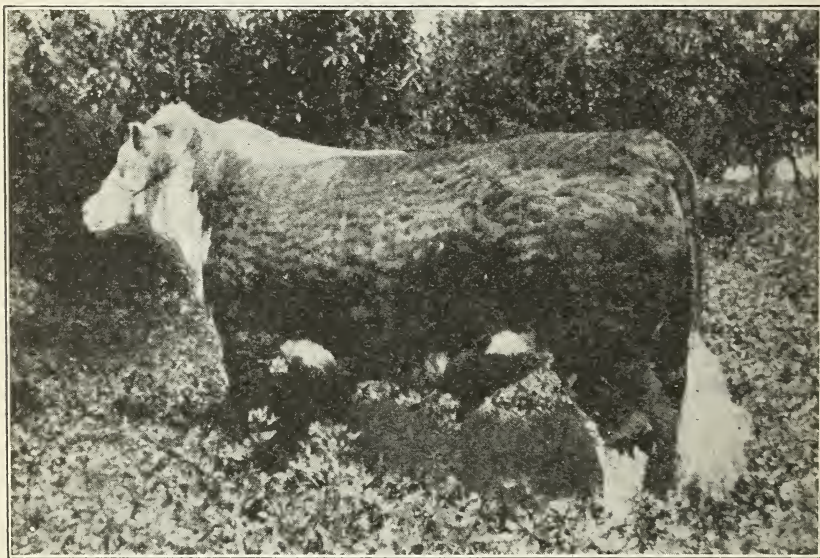


FIG. 1.—This pure-bred Hereford calf weighed 1,200 pounds at just a year old, illustrating rapid gain combined with good quality. It is owned by one of the stockmen who furnished the department with information concerning his breeding experiences.

"I have increased the weight per fleece on 10,000 sheep," a Montana ranchman says, "from 6 pounds to 11½ pounds—almost 100 per cent."

Many stockmen emphasize the greater salability of pure breeds. "Buyers in this locality always come to me first," is a typical comment. Another remarks, "Sales are easily and satisfactorily made and higher prices are received."

The influence of good breeding on uniformity is illustrated by the experience of a Colorado breeder, who says: "Ten years ago I bought 200 head of scrub cows. They were all colors of the rainbow. I have used pure-bred sires and now the cows are all smooth and every one has a white face, besides being 50 per cent larger."

Others lay emphasis on the better care and management through greater pride in possession, with resulting increase in returns. There were frequent references also to the gentler disposition and intelligence of pure-breds and pleasure in handling them.

SELLING SURPLUS PURE BREDS AS BREEDERS.

Besides obtaining the benefits of greater utility value from their pure breds, about four-fifths of the live-stock owners report sales of surplus animals for breeding purposes. Their success in this venture is presented briefly in Table 3.

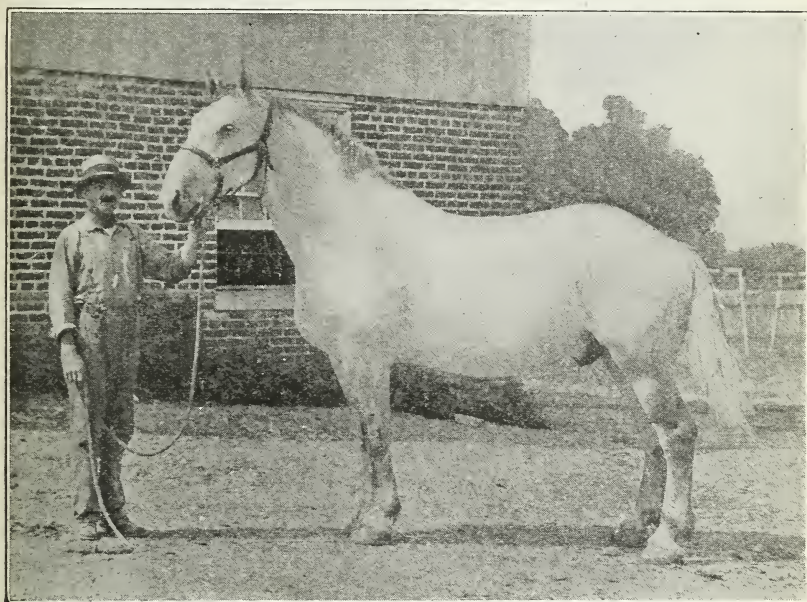


FIG. 2.—Pure-bred Percheron, weight 1,800 pounds, used as farm work horse. Owners of pure breds report them as being more intelligent and more easily handled than "the sorry kind."

TABLE 3.—Success in selling surplus pure breds as breeding stock.

Nature of comment.	Per cent of total comment.
Success:	
Unable to supply demand.....	1.6
General success.....	50.3
Success except during financial depression (fall of 1921).....	4.8
	56.7
Difficulty:	
Slow sales (traceable to financial depression).....	9.6
General lack of demand.....	7.3
Pure breds not appreciated.....	7.7
	24.6
Qualified:	
Combinations of successes and difficulties.....	9.1
Miscellaneous.....	9.6
	18.7

The figures show a majority report on successful sales of surplus pure breds. Difficulties are so numerous, however, that they merit additional comment. Lack of demand was due to various conditions partly within the control of breeders. The quality of stock offered was mentioned in several as the reason for difficulty in making sales. "I have never had any difficulty," one man writes, "in selling surplus pure breds as breeders since I improved the type."

In the case of dairy stock, lack of production records in both the male and female lines of ancestry is a damper on sales. Several



FIG. 3.—Pure-bred Southdown lambs on pasture. Well-bred animals attract attention of passers-by and are living advertisements of good farming.

stated frankly that the quality of some of the surplus stock offered was not particularly good. In other instances difficulty was due to the type of stock raised locally. It was reported difficult to sell pure-bred beef animals in dairy districts and vice versa. Even in the same class of stock, a breed not popular locally was hard to sell. Others had only a few head of surplus stock and they preferred to sell at an unsatisfactory price rather than to incur the expense of advertising. Especially in cases of local surplus, failure to advertise or to show stock at fairs contributed to the difficulty in making sales.

According to comments that accompanied the reports, bull calves were most difficult to sell. This was especially true of dairy breeds in the New England States and in New York and Pennsylvania. There were certain other special reasons, such as cattle ticks in the quarantined portions of the South.

In contrast to the comments reporting lack of demand and failure of prospective buyers to appreciate the value of pure-bred stock was the much larger number of reports telling of success in making sales. Briefly, the sales problem appears to be largely one of satisfactory quality of the stock offered, combined with personal enterprise in maintaining breeding and production records and in attracting buyers. (See Fig. 4.)



FIG. 4.—Heifer calves from pure-bred stock but not salable as pure-breds, owing to lack of registration papers for dams. Records of breeding and production make good stock more desirable and valuable.

RESULTS OBTAINED WITH PURE-BRED SIRES.

Of particular significance in live-stock improvement by the grading-up method is the result of experience with pure-bred sires. Of the 525 live-stock owners reporting, 472—about nine-tenths—furnished specific data on the quality of offspring obtained. Depending on the females used, the offspring were pure-bred, crossbred, or grade. Table 4 gives a summary of the comments, and Figure 5 illustrates a typical experience.

TABLE 4.—*Reports on satisfaction with progeny of pure-bred sires.*

Nature of comment.	Per cent of total comment.
Satisfied:	
Unqualified.....	83.9
With occasional exception.....	6.7
Except general desire for better.....	5.5
Dissatisfied:	
Because of desire for better.....	3.0
Unqualified.....	.9

The figures, with slight exception, show either a general satisfaction or a desire for still further improvement. Comments in the reports frequently stated that greatest progress was possible only when sires of superior quality were used and that a desire for still further improvement was the basis of success in breeding.

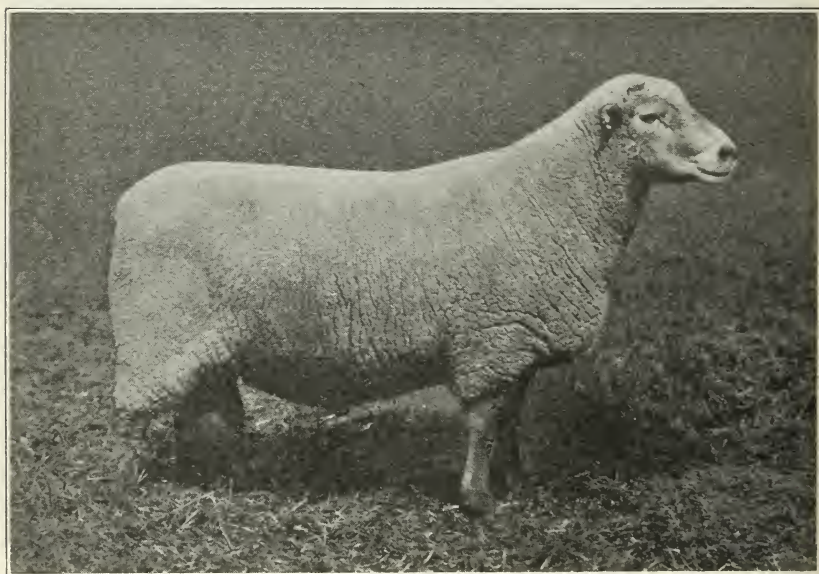


FIG. 5.—A 2-year-old Southdown ram, prize winner at eastern shows, and used by a Massachusetts breeder as a farm sire; weight as shown in picture was 225 pounds. This ram later sold for \$100. Eight pure-bred yearling rams which he sired averaged about \$40 each when sold to head grade flocks.

CAUTION REGARDING UNTRIED SIRES.

Many placed stress on getting a high quality of pure-bred sires at the outset instead of starting with cheap, untried sires. The expensive experience of a New England dairyman illustrates this point. He had purchased a bull of creditable breeding on the male side, but the dam, he explained, was "just a pure-bred cow," with no production records. "I had a herd of grades," he continued, "30 in number, that milked from 5,000 to 8,000 pounds of milk a year and which had taken a lot of time and money to get together. I raised 22 heifers

from this bull before the first one freshened. Not one of them gave 25 pounds of milk a day with the first calf. I stopped using the bull and kept the best females to freshen a second time. There was not much improvement. The bull and every one of his heifers were sold for what I could get, which was not much. By that time a number of my cows were getting old. It was a case of buy more cows to keep my herd in good numbers as well as milk. With four years lost, and I don't know how much money, I learned not to buy an animal because it is registered, but to buy an individual whose ancestors have made good, with no weak points in his breeding, and then pay the price. It's the cheapest by far in the end."

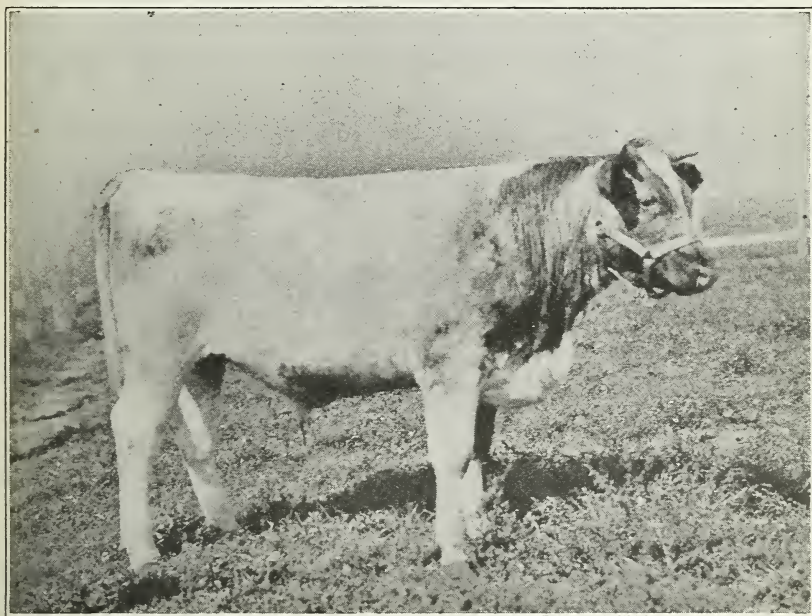


FIG. 6.—First-cross Shorthorn steer obtained by using a pure-bred sire with a common cow. (Sni-a-bar farm demonstration.)

Another breeder declared that progress depends largely on the ability to recognize good individuals. But the majority of comments on the progeny of pure-bred sires included expressions like these: Better feeders and fewer runts; mature quicker with less feed; pure-bred sires bring good calves from scrub mothers; heifers more sure to be good milkers and more persistent; in beef cattle and hogs it is the ease with which they gain and finish for market; ready sale and good price at any time of year.

SALE VALUE OF PURE-BRED SIRE OFFSPRING.

As an approximate measure of the benefits resulting from pure-bred sires, figures were obtained on the relative money value of their offspring compared with offspring of nonpure-bred sires. The sale

value of each was used as a basis for comparison. The average of 464 experiences on this point showed 49.4 per cent superiority in favor of the offspring of pure-bred sires. The percentage varied from 46 per cent for the Western and Southwestern States to 58 per cent for the Corn Belt group. Many striking instances of successful investments were given. A breeder who started 11 years ago with one heifer and one bull calf, the two costing less than \$200, sold last year, he states, "over \$3,000 worth of stock without impairing the herd. The farm is run on a strictly farm basis."

"The best-producing animals are just like the best and richest soil—less work, larger returns," is the view of another.

A dairyman remarks, "By using a pure-bred bull on mature cows, the offspring gave 30 per cent more milk than their dams. Then I bought some registered heifers and at two years they gave more milk than the grade cows."

EXPERIENCES IN OBTAINING GOOD PURE-BRED SIRES.

The practical matter of obtaining satisfactory pure-bred sires for improving farm live-stock received study with results contained in Table 5. It represents the experience of 492 persons.

TABLE 5.—*Experiences in obtaining good pure-bred sires.*

Nature of comment.	Per cent of total comment.
No difficulty.....	71.5
No difficulty, except price.....	8.6
Difficulty due to special requirements.....	15.4
Miscellaneous.....	4.5

The "special requirements" mentioned in the table include reference to breed, type, quality, and other points of an unusual character. An Ohio sheep breeder remarks that so many have used French blood in breeding American Merino sheep that it is difficult to find a ram that does not contain French blood. Another had difficulty in obtaining locally a certain breed of goat. In the South the presence of cattle-fever ticks is responsible for some difficulty in obtaining the desired quality of stock.

But by far the greatest difficulty was to obtain the quality and type desired within a reasonable distance and at a price the purchaser was willing to pay. Notwithstanding occasional reports that prospective purchasers prefer to obtain stock "from a distance," the only reason for doing so, according to purchasers themselves, is their need for quality and type not found in locally bred stock. (See Fig. 7.) The comments indicate an aversion to paying high transportation costs with attendant risks of long transit. Yet there appears to be a determination among experienced breeders to get the desired type

and breeding even at great trouble and high price, because of their faith in the ultimate results. A Montana stockman tells of difficulty in getting sires to suit him and declares, "I have gone as far as 1,200 miles to get the kind of sire I wanted."

"They come high," another breeder explained, "but are worth what they cost. I saw the need of better cattle and sold my scrubs and bought registered Herefords. They have more than paid for themselves." A typical experience of those who have made good selections is this comment from a West Virginia breeder who raises beef cattle, horses, and swine. "I have no difficulty as I always take

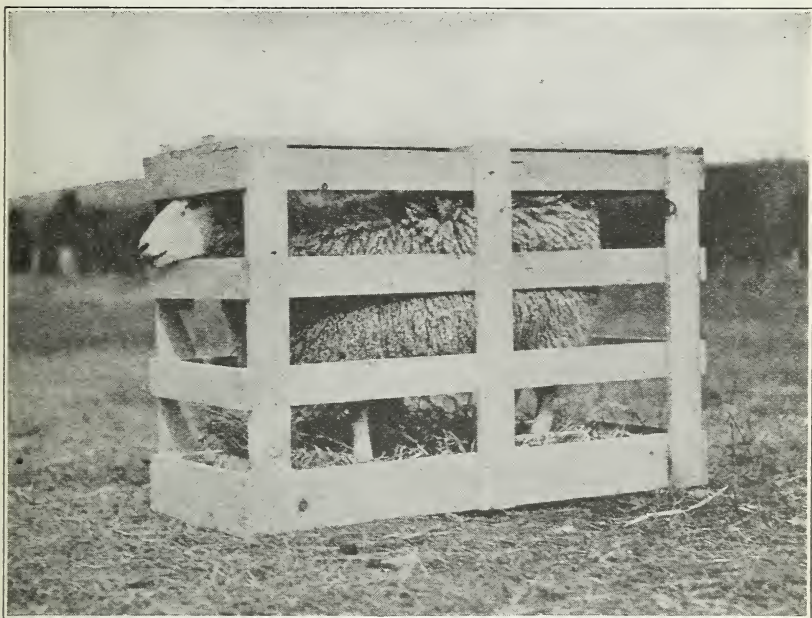


FIG. 7.—Sheep crated for shipment. Purchasers prefer to obtain stock locally, if possible, to save transportation costs. When unable to obtain the desired type, they report that it pays to get what they require, distance being a secondary matter.

plenty of time to inspect sires before disposing of my old ones. I have started several herds near home and have shipped to new breeders in other States."

The least difficulty in obtaining good pure-bred sires is reported from the Corn Belt, the greatest being in the South and Southwest.

DEGREE OF SATISFACTION WITH PURE-BRED SIRES.

For the most part, users of pure-bred sires are reasonably well satisfied with them as individuals. Of 459 users, 380 reported general satisfaction, 71 were satisfied except for the desire for still better, and 8 were dissatisfied. In general about 98 per cent of the owners appeared to have obtained satisfactory pure breeds as sires.

FINANCIAL RETURNS FROM PURE-BRED SIRES.

The average estimated increase in financial returns traceable to the use of pure-bred sires was 48 per cent. This figure represents the experience of 331 persons who were able to furnish data on the subject. It compares rather closely with 49.4 per cent, the figure already given as the increase in sale value of offspring from pure breds. Thus the use of pure-bred sires yields close to one-half greater returns than are commonly derived from nonpure-bred sires.

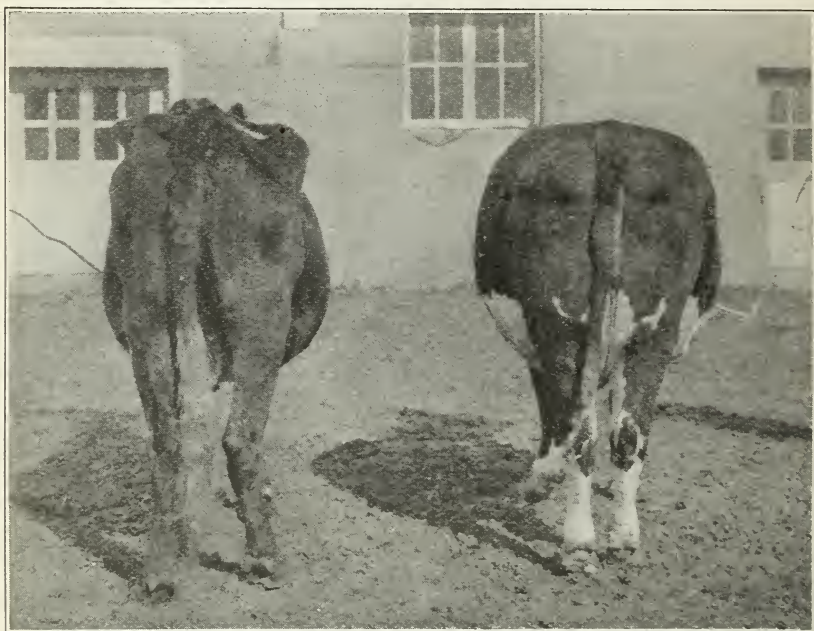


FIG. 8.—A scrub cow (left), a very poor beef animal and evidently a poor milker, compared with a pure-bred beef cow (right) of excellent conformation.

PROLIFICACY A FACTOR IN RESULTS.

Since pure-bred sires have a higher money value than scrubs or grades, the earning power of pure breds must obviously be at least proportionately greater in order to make them profitable—especially to such an extent as 48 per cent. The profitable results are due largely to the fact that a pure-bred sire gradually improves an entire herd or flock. The influence of pure-bred females is not so extensive, but there is nevertheless an accumulative profit resulting from the natural tendency of live stock to be prolific. Especially in the case of poultry and hogs, which multiply rapidly, a few animals of pure breeding may in a few years become the ancestors of hundreds of pure breds.

INFLUENCE OF PURE-BRED SIRE USERS ON METHODS OF OTHER FARMERS.

Both from a buying and selling standpoint, it is worth while to know what influence the use of pure-bred sires has on methods of other farmers. That is, do other live-stock owners in the locality also acquire good sires and to what extent? The question involves many human elements and any figure must be regarded only as a general indication.

More than half of the pure-bred sire users reported that their example apparently had caused others in the locality to improve their stock. The average number of persons which each one so influenced for better live stock was slightly over 13.

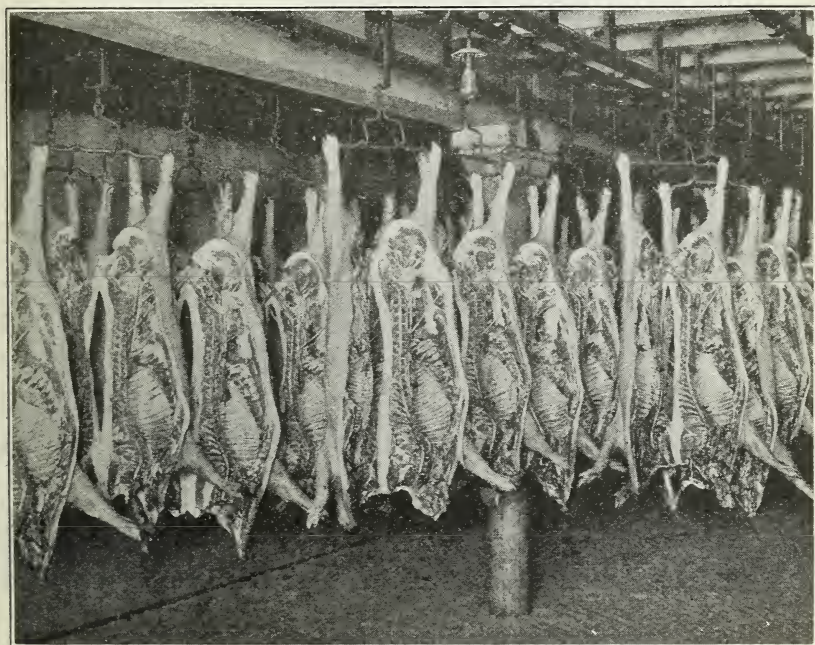


FIG. 9.—Hog carcasses in packer's cooler. This is the ultimate destination of hogs, a fact to be kept in mind. Good pure-bred stock is prolific, makes economical gains, and matures quickly.

Comments on this question also contain frequent references to the satisfaction derived by influencing others to breed better stock. "In 15 years," an Ohio breeder says, "I have supplied ewes to establish six purebred flocks, and have also established several herds of Short-horns and Jerseys."

"Fifty per cent of my neighbors get their sires from me" is the comment of a Nebraskan on this subject. From the same State comes the comment, "During the last 30 years I have made some effort in trying to induce others and have sold 1,100 boars and sows for breeding purposes. The day of grade or scrub sires has passed and is out of line with high-priced lands and pastures."

INCENTIVES TO RAISE SUPERIOR LIVE STOCK.

The various influences which cause people to take up the breeding of superior live stock show that the decision is generally one of deliberation. Reading and observation are the two most impelling factors, as is seen in Table 6.

TABLE 6.—*Principal factors influencing the breeding of superior live stock.*

Influence.	Per cent of total comment.	Influence.	Per cent of total comment.
Reading.....	36.0	Home influence.....	4.8
Observation.....	17.5	College instruction.....	4.1
County agent.....	12.9	Natural liking.....	3.6
Meetings, institutes, etc.....	10.1	Livestock club work.....	2.4
Sales, fairs, and shows.....	6.0	Miscellaneous.....	2.6



FIG. 10.—Stock-judging pavilion at a State fair. Fairs, shows, exhibitions, and public sales are important influences in the improvement of domestic animals.

From the influences listed it is clear that most decisions to raise pure-bred live stock are those of serious judgment rather than of impulse. Among the classes of reading matter, agricultural periodicals were mentioned most frequently. Bulletins were also spoken of as important influences. The prominence of "observation" is best explained by incidents which show the degree to which this quality exists among persons interested in fine live stock.

One farmer became a breeder of pure-bred live stock because, in his own words, he "watched a neighbor who received a larger cream check from a herd of 15 pure-bred cows than the average farmer was receiving from 25 to 30 cows and on less feed."

A dairyman says that he saw the value of pure-breds after he acquired a cow that he "never could dry up. She gave 15,000 pounds of milk a year for 9 years."

Still another decided on pure breeds "by watching a neighbor milking his pure-bred herd of cows and studying his milk sheets."

"As a boy," declares a Florida stockman, "I saw that my father never would make a success with scrubs."

Another tells that at a county fair he saw the offspring of scrub and pure-bred bulls from the same cow, and was convinced.

"I am a cattle buyer" another states, "and found that well-bred cattle would always sell."

"My neighbor," still another remarks, "had nothing but pure-bred hogs and dairy cows and his returns were much better than mine."

The influence of poultry on the quality of other farm stock is told by a Nebraska farmer. "The 'boss' of this farm is not blessed with a large family nor an overplus of muscular force," he states. "therefore everything must pay its way. We first saw the light with pure-bred Wyandotte chickens—found we had more uniform birds, more eggs, and a better market. Then wife

began to keep books on our grade cows, and I discovered that I had been chambermaid for a bunch of star boarders. So we bought a few pure-bred heifers (always had pure-bred males) and started without any idea of ever selling breeding stock—just to have good milkers and sell the calves as baby beef. Well, the neighbors liked the pure breeds better, and they came and bought the surplus; still doing it. Notice we stress utility. If the pedigree is fancy, all well and good; but the individual must make good on the utility basis. Foundation stock has gone to four adjoining States and to most of the counties lying close, without expensive advertising or public sale. Common stock and culls are never priced as breeding stock."

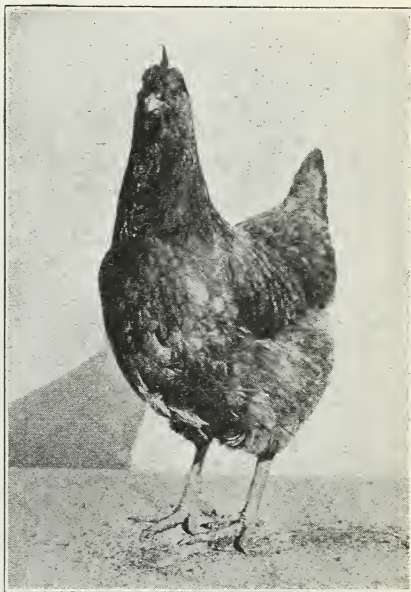


FIG. 11.—This Buff Orpington pullet is credited with laying 278 eggs during her first year and winning fourth prize in a 10,000-bird show. Such a bird illustrates the utility value resulting from pure breeding and selection.

NEEDED MORE INCOME AND GOT IT.

A Connecticut farmer who raises cattle, hogs, and poultry tells that he became interested in the breeding of superior live stock "because we had to have more income." This farmer has used pure-bred sires exclusively for the last 11 years. Both the utility value and sales value of his stock have become greater and his financial returns have increased 100 per cent. He adds that "better breeding leads to better care and to more profits." The data appear to show conclusively that well-bred animals are good property not simply for the

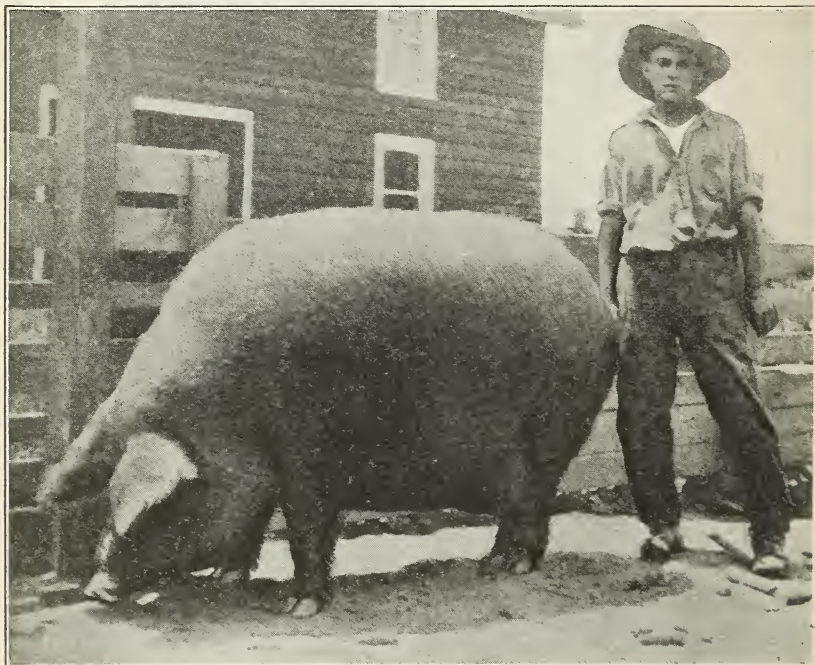


FIG. 12.—A pure-bred Duroc-Jersey boar formerly used by the U. S. Department of Agriculture at its Experiment Farm. A subsequent owner, unfamiliar with the value of size in swine, slaughtered him. Weight after bleeding was 1,110 pounds; age, 3 years and 10 months.

experienced breeder but for every farmer willing to give them the proper care and opportunity to prove their worth. The lesson in Figures 12 and 13 is of interest in this connection.

METHODS OF FURTHER IMPROVEMENT.

Of probable interest to live-stock owners are the methods by which breeders, whose experiences have been given, expect to improve their live stock still further. The use of high-quality pure-bred sires, combined with general care in mating, are the chief methods. Females of superior type likewise receive prominent mention.

TABLE 7.—*Methods used by pure-bred live-stock owners to obtain further improvement.*

Method.	Per cent of total comment.	Method.	Per cent of total comment.
Use of superior pure-bred sires.....	36.4	Better care.....	5.4
Selection and care in mating.....	28.0	Testing for production.....	3.5
Use of superior females.....	9.3	Line breeding.....	2.7
Culling of less desirable animals.....	7.1	Study of literature and records.....	2.2
Better feeding.....	5.4		



FIG. 13.—Carcass of hog shown in Figure 12; dressed weight (warm) including liver was 1,005 pounds. This boar was improving the type and size of hogs in the community. He was too valuable to have been slaughtered in his prime.

The inclusion in the table of such items as better feed and care refer to the desire for developing better individual types. These factors help to determine size and conformation, thereby influencing values and sales. Feed and care are also of great importance in determining the utility value of any kind of live stock. A Texas breeder illustrates this point by the remark, "One big trouble in our

community is that there are some who expect a cow to give milk simply because she is registered and fail to realize that feed is essential even in pure breds. The remedy, I believe, is in register-of-merit testing, which tells the tale."

The value of well-kept records was referred to frequently. That breeders of other animals besides cattle and fowls are recognizing the value of records is evident from current interest in establishing a register of merit for swine. Among the points now being considered in such a system of records are: Age of sow, number of pigs in litter, number raised to 10 weeks old, and average weight of pigs at 8 months old. Such records properly supervised and made available to the public should help greatly in obtaining satisfactory breeding stock and in adding to the utility qualities of swine.

An interesting sidelight on the utility value of beef cattle is contained in a statement received by the department from an Ohio butcher. "When we kill an animal that has an exceptionally good dress," he states, "we display it in our window, giving age, live weight, dressed weight, and per cent of dress to the hundred. In this way we can prove to the farmer that he gets more live weight and we get more dressed weight from well-bred stock than from inferior stock of the same age."

SPECIAL PROBLEMS AND DIFFICULTIES.

In considering the figures presented, it should be remembered that they are the composite expression of many experiences. This is necessary in order to arrive at dependable general conclusions. Some breeders have had still greater successes, while at the other extreme a few have experienced serious disappointments. A brief description of the latter may help to show that the business of handling pure-bred stock involves risks as well as rewards, and, owing to the greater value of pure breds over other stock, both profits and losses are relatively greater.

A stockman in eastern New Mexico relates this experience: "I bought a bull and after his second season he died. I bought a cow and she got locoed. I am out of pocket at least \$200 because of my pure-bred venture. The 16 heifers I have retained from the pure-bred bull have straighter backs than scrub offspring—that's about all." This man adds that he is leasing a pure-bred bull for next year.

A Florida dairyman tells this costly experience: "I recently lost two registered Jersey heifers brought from Kentucky, also a very fine registered bull, from tick fever." He nevertheless reports general satisfaction with his six years' experience in raising improved live stock. The offspring are satisfactory, with a few exceptions, and represent an improvement of 50 per cent over the general live stock of the community.

A few persons reported high tax assessments since raising pure breds and protest against the unfairness of such taxation, especially after they have been a source of wealth and other benefits to the community. The most common difficulty reported, however, is that of making profitable sales of surplus breeding stock, owing to lack of demand or unwillingness of purchasers to pay more than "scrub prices."

The evidence when examined closely shows that the merits of pure-bred live stock are much like those of any other efficient piece of farm equipment. It does its best work in the most capable and skilled hands. But in the hands of those who do not understand it or who will not give it the proper study it becomes less useful and may even be a liability.

Following is a summary of the entire inquiry, giving in condensed form the main results and conclusions:

SUMMARY.

Based on utility alone—apart from breeding or sales value—pure-bred live stock has an earning power from a third to one-half greater than scrub stock. The average superiority of pure breds over scrubs for all classes of farm animals is about 40 per cent.

Of the principal points in which pure breds excel other stock, the most prominent are: Superiority and uniformity in conformation and type, greater sale value, early maturity, and economy in the conversion of feed into meat, milk, wool, and work.

Surplus pure breds are readily salable at satisfactory prices in a majority of cases; but much depends on the breeding and production records and the business ability of the breeder.

With rare exceptions, pure-bred sire users are satisfied with the quality of the offspring obtained, except that the desire is created in many cases to improve the quality still further.

The progeny of pure-bred sires has practically a 50 per cent greater sale value than the progeny of sires not pure bred.

Pure-bred sires of good quality are readily obtainable in the experience of three-fourths of the breeders reporting. The principal difficulties are: Paying the price and finding the desirable type, but there is practically unanimous agreement that the results justify the cost.

The average increase in financial returns, from live-stock raising, traceable to the use of pure-bred sires is 48 per cent.

Most breeders of pure breds exert a noticeable influence in improving the quality of live stock in their neighborhoods.

Of the chief influences which cause farmers to become breeders of pure-bred live stock, the three foremost are: Reading agricultural periodicals and bulletins, general observation, and county agents.

The principal methods by which breeders expect to continue to improve their stock are: Use of superior sires, careful selection and mating, and use of superior females.

SELECTED PUBLICATIONS RELATING TO THE IMPROVEMENT OF LIVE STOCK.

The following publications are available for free distribution and may be obtained upon application to the Division of Publications, U. S. Department of Agriculture. Washington, D. C.

Essentials of Animal Breeding. (Farmers' Bulletin 1167.)

Judging Beef Cattle. (Farmers' Bulletin 1068.)

Cooperative Bull Associations. (Farmers' Bulletin 993.)

Judging Sheep. (Farmers' Bulletin 1199.)

Swine Management. (Farmers' Bulletin 874.)

The Feeding of Horses. (Farmers' Bulletin 1030.)

Runs—and the Remedy. (Yearbook Separate 841.)

From Scrubs to Quality Stock. (Yearbook Separate 848.)

Pictures—Livestock Improvement Series.

"Better Sires—Better Stock." (Booklet, L. S. C. 4.)

"Your Future Herd." (Folder, D. D. E. 10.)

ADDITIONAL COPIES
OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT
10 CENTS PER COPY
▽

